GA-3PXSL-RH

AMD Socket AM2 Motherboard

USER'S MANUAL

AMD® AM2 Processor Motherboard

Rev. 1002



* TheWEEEmarkingontheproductindicatesthisproductmustnotbedisposedofwithuser'sotherhouseholdwaste andmustbehandedovertoadesignatedcollectionpointfortherecyclingofwasteelectricalandelectronicequipment!!

* TheWEEEmarkingappliesonlyinEuropeanUnion'smemberstates.

Table of Content

Item Checklist 4
WARNING! 4
Chapter 1 Introduction 5
1.1.Features Summary 5
1.2GA-3PXSL-RH Motherboard Components 7
Chapter 2Hardware Installation Process 9
2-1: Installing Processor and CPU Haet Sink 9
2-1-1: Installing CPU 9
2-1-2: Installing CPU Cooler Fan 10
2-2: Install memory modules 11
2-3: Install expansion cards 13
2-4: Connect ribbon cables, cabinet wires, and power supply 14
2-4-1 : I/O Back Panel Introduction 14
2-5: Connectors & Jumper Setting Introduction 16
2-6: Block Diagram 24
Chapter 3 BIOS Setup 25
Main 27
Advanced 32
Advanced BIOS Feature 33
Advanced Chipset 36
Integrated Peripherals 38
Power Management Setup 46
PnP/PCI Configuration 48
Security 50
Boot 51
PC Health 52
Exit 54

Chapter 4 Application Driver Installation 55
A.NVDIA Chipset Driver Installation 55
B.nVIDIA VGA Driver Installation 61
C.Marvell LAN Driver Installation 63
D.DirectX 9.0 Driver Installation 66
Chapter 5 Appendix 69

Item Checklist

- ☑ The GA-3PXSL-RH motherboard
- ☑ IDE (ATA100) cable x 1 / Floppy cable x 1
- ☑ CD for motherboard driver & utility
- ☑ GA-3PXSL-RH user's manual
- ☑ Serial ATA cable x 4
- ☑ I/O Shield Kit



WARNING!

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis...

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

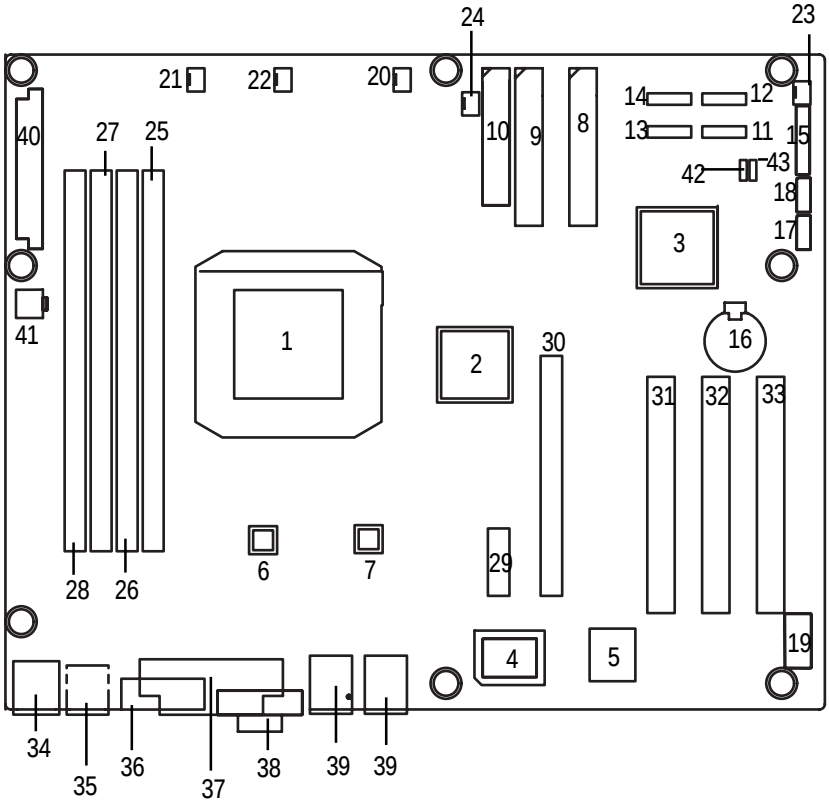
1.1. Features Summary

Form Factor	• 12" x 9.6" ATX size form factor, 4 layers PCB
CPU	• Supports AMD® Opteron™ 1000 series (Socket AM2) processor • AMD™ Single/Dual Core in AM2 socket • L2 cache on-die per processor from 1M
Chipset	• NVIDIA® GeForce 6150 Chipset • NVIDIA® nForce 430 Chipset
Memory	• 4 x DDRII-533/667 socket up to 16 GB • Supports Un-buffered DDRII 533/667/800 • Dual Channel memory bus • Support 512MB, and 1GB memory • Single-bit Errors Correction, Multiple-bit Errors Detection
I/O Control	• ITE IT8712F-A Super I/O
Expansion Slots	• Supports 3 PCI slots 32-Bit/33MHz (5V) • Supports 1 PCI-Express x1 slot • Supports 1 PCI-Express x16 slot
On-Board SATA RAID	• Build in NVIDIA® nForce 430 chipset • Supports SATAII RAID 0, 1, 0+1, 5
On-Board Peripherals	• 2 ATA-133 connectors • 1 Floppy port supports 2 FDD with 1.2M, 1.44M and 2.88M bytes. • 2 PS/2 connectors • 1 Parallel port supports Normal/EPP/ECP mode • 2 Serial port (COM, 1 by cable) • 6 x USB 2.0 (4 by cable) • 1 VGA connector • 2 x LAN RJ45 • 4 x SATAII connectors
Hardware Monitor	• CPU/Power/System Fan Revolution Detect • CPU shutdown when overheat • System Voltage Detect
On-Board Graphic	• Integrated in NVIDIA® GeForce 6150 Chipset
On-Board LAN	• Marvell 88E8056 GbE controller/Marvell 88E1116 GbE PHY • Supports WOL, PXE

BIOS	• Licensed Award BIOS on 4MB flash ROM • SMBIOS Spec. Rev 2.3.3. compliant • ACPI defined S1, S3, and S5
Additional Features	• PS/2 Mouse power on under Windows Operating System • External Modem wake up • Supports S1, S3, S5 under Windows Operating System • Wake on LAN (WOL) • AC Recovery

1.2 GA-3PXSL-RH Motherboard Components

1. CPU
2. NVIDIA GeForce 6150
3. NVIDIA nForce 430
4. ITE 8712F-A
5. BIOS Flash
6. Marvel 88E1116 GbE PHY
7. Marvel 8056 GbE
8. IDE1 Connector
9. IDE2 Connector
10. Floppy Connector
11. SATA1 Connector
12. SATA2 Connector
13. SATA3 Connector
14. SATA4 Connector
15. Front Panel Connector
16. Battery
17. Front USB2 Connector
18. Front USB3 Connector
19. COMB Connector
20. CPU 1 FAN
21. System Fan1
22. System Fan2
23. System Fan3
24. System Fan4
25. DIMMA1
26. DIMMB1
27. DIMMA2
28. DIMMB2
29. PCI-E x1 Slot
30. PCI-E x16 Slot
31. PCI 3 Slot (32bit/33MHz)
32. PCI 2 Slot (32bit/33MHz)
33. PCI 1 Slot (32bit/33MHz)
34. PS/2 Connectors
35. USB ports
36. Serial Port
37. Parallel Port
38. VGA Port
39. RJ45 LAN/USB ports
40. Auxiliary Power (ATX1)
41. Auxiliary Power (+12V)
42. Jumper Block
43. Jumper Block


24
23
21
22
20
14
12
40
27
25
10
9
8
13
11
15
42
43
18
3
17
41
1
2
30
16
31
32
33
6
7
29
28
26
4
5
19
34
35
36
37
38
39
39

Chapter 2 Hardware Installation Process

2-1: Installing Processor and CPU Haet Sink

CAUTION

Before installing the processor and cooling fan, adhere to the following cautions:

1. The processor will overheat without the heatsink and/or fan, resulting in permanent irreparable damage.
2. Never force the processor into the socket.
3. Apply thermal grease on the processor before placing cooling fan.
4. Please make sure the CPU type is supported by the motherboard.
5. If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.

2-1-1: Installing CPU

Step 1. Check the CPU pins are not bent. Raise the locking lever next to the socket prior to installing the CPU.

Step 2. The pin 1 location is designated on the CPU by a copper triangle that corresponds to a triangle marking on the socket as shown in Fig. 2.

Step 3. Insert the CPU with the correct orientation. The CPU only fits in one orientation. When CPU is placed into socket properly, push the locking lever back into locked position.



Fig.1
Raise locking lever at a 90 degree angle.



Fig.2
Pin 1 location on the socket and CPU.
Gently place the CPU into position and amke sure the CPU pins fit perfectly into the holes. Once the CPU is positioned into its socket, place one finger down on the middle of the CPU and gently press the metal lever back into its original position.

2-1-2: Installing CPU Cooler Fan



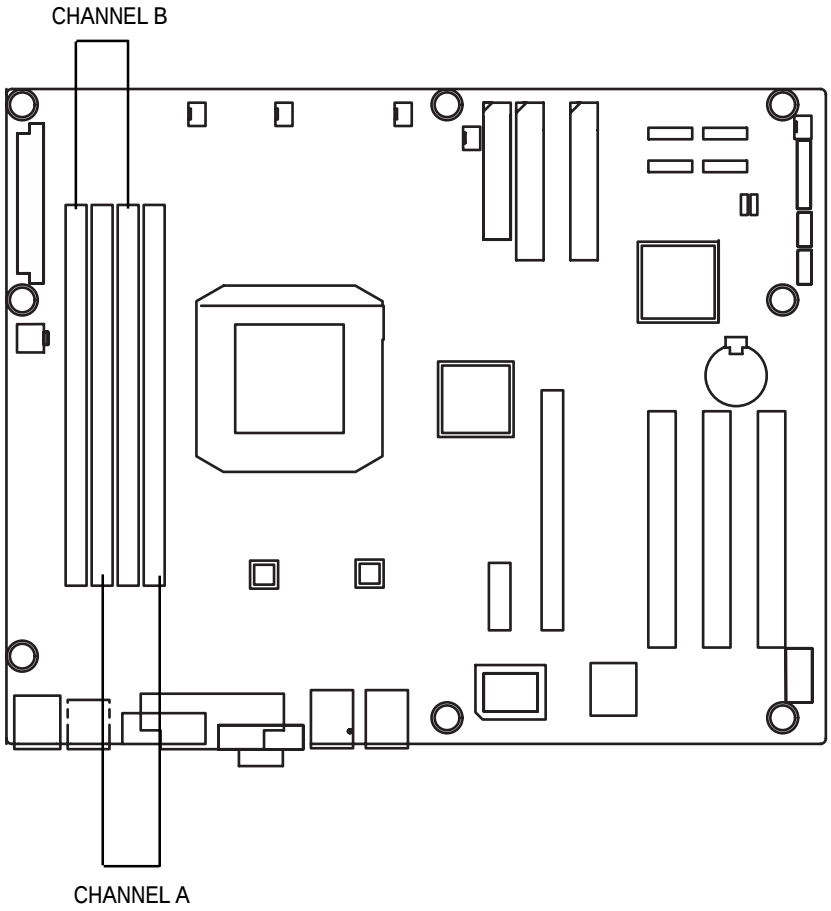
Fig.1
Before installing the CPU cooler fan, please first add an even layer of heat paste on the surface of the CPU. Install all the CPU cooler components (Please refer to the cooler manual for detailed installation instructions).



Fig.2
Please connect the CPU cooler fan power connector to the CPU_FAN connector located on the motherboard.

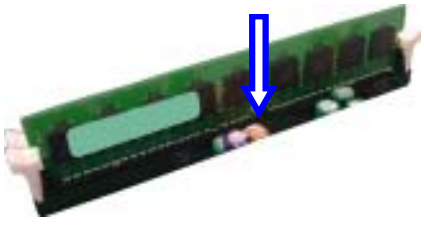
2-2: Install memory modules

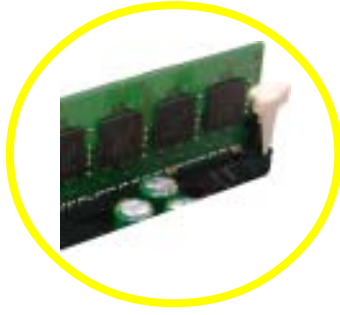
GA-3PXSL-RH has 4 dual inline memory module (DIMM) socets. It supports the Dual Channel Technology. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket .The DIMM module can only fit in one direction due to the notch. Wrong orientation will cause improper installation. Please change the insert orientation. Memory size can vary between sockets.



Installation Step:

1. Unlock a DIMM socket by pressing the retaining clips outwards.
2. Aling a DIMM on the socket such that the notch on the DIMM exactly match the notches in the socket.
3. Firmly insert the DIMMinto the socket until the retaining clips snap back in place.
4. When installing the DIMM into the DIMM socket, we recommend to populate one DIMM in Channel A module and one in Channel B module for best performance.
   Please note that each logical DIMM must be made of two identical DIMMs having the same device size on each and the same DIMM size.
5. Reverse the installation steps when you wish to remove the DIMM module.





Locked Retaining Clip

Table 2-3-1: DDRII DIMM Slot Populations

Mode	Slot			
	DIMMA1	DIMMB1	DIMMA2	DIMMB2
Single Channel	Install			
		Install		
Dual Channel	Install	Install		
Dual Channel	Install	Install	Install	Install

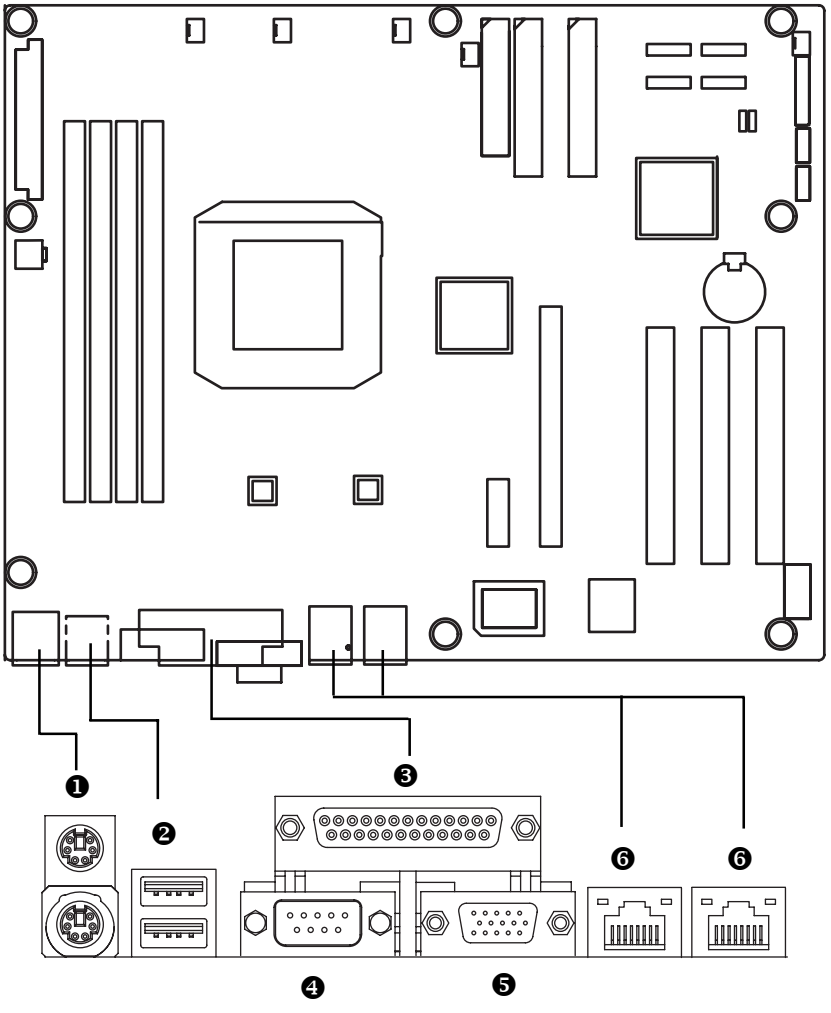
2-3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your server's chassis cover, necessary screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.



2-4: Connect ribbon cables, cabinet wires, and power supply

2-4-1 : I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector

To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

❷ USB Port

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. have a standard USB interface.
Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver updated. For more information please contact your OS or device(s) vendors.

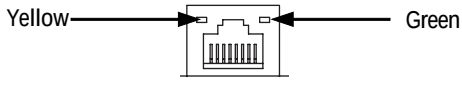
❸/❹/❺ Parallel Port / Serial Port / VGA Port

This connector supports 1 standard COM port and 1 Parallel port. Device like printer can be connected to Parallel port ; mouse and modem etc can be connected to Serial port.

❻ LAN Ports

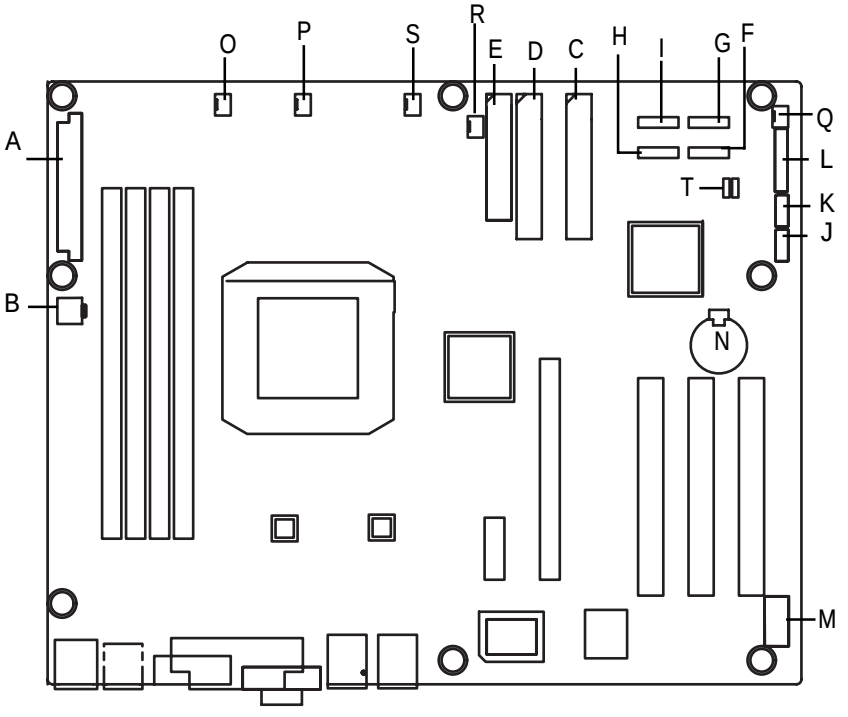
The provided Internet connection is Gigabit Ethernet, providing data transfer speeds of 10/100/1000Mbps.

LAN LED Description



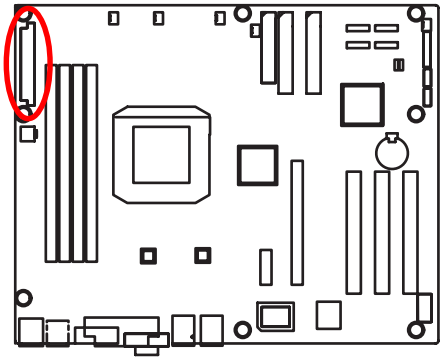
Name	Color	Condition	Description
LAN	Green	ON	LAN Link / no Access
Link/ Activity	Green	BLINK	LAN Access
	--	OFF	Idle
10/100 LAN	Green	ON	100Mbps connection
Speed	--	OFF	10Mbps connection

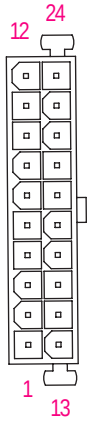
2-5: Connectors & Jumper Setting Introduction



A) ATX	M) COMB
B) ATX_12V	N) Battery
C) IDE1	O) SYS_FAN1
D) IDE2	P) SYS_FAN2
E) FDD	Q) SYS_FAN3
F) SATA1	R) SYS_FAN4
G) SATA2	S) CPU_FAN
H) SATA3	T) CLR_CMOS (CMOS Clear Jumper)
I) SATA4	
J) F_USB2	
K) F_USB3	
L) F_Panel1	

A) ATX (ATX Power Connector)

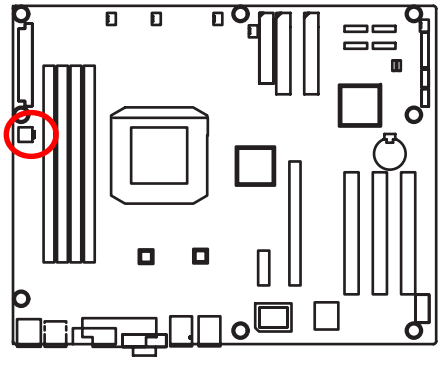




PIN No.	Definition
1	+3.3V
2	+3.3V
3	GND
4	+5V
5	GND
6	+5V
7	GND
8	POK
9	5VSB
10	+12V
11	+12V
12	+3.3V
13	+3.3V
14	-12V
15	GND
16	PSON
17	GND
18	GND
19	GND
20	-5V
21	+5V
22	+5V
23	+5V
24	GND

➢ AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

B) ATX_12V(+12V Power Connector)



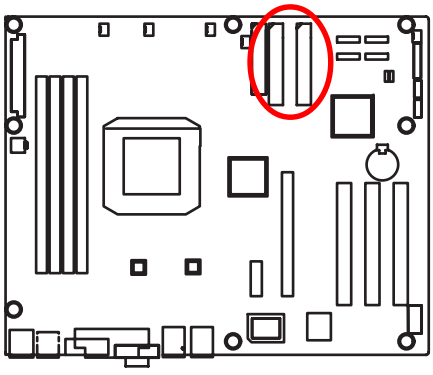


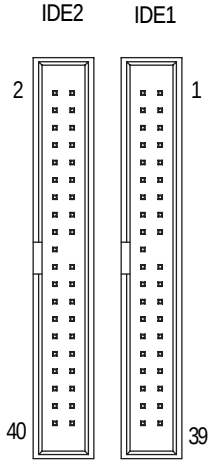
Pin No.	Definition
1	GND
2	GND
3	12V
4	12V

➢This connector (ATX +12V) is used only for CPU1 Core Voltage.

C/D) IDE1/IDE2 Connector

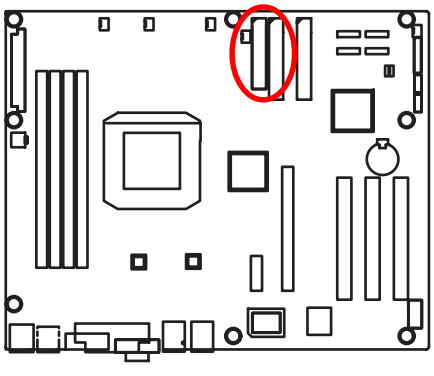
Please connect first harddisk to IDE1. The red stripe of the ribbon cable must be the same side with the Pin1.

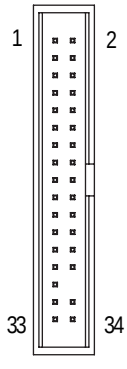




E) FDD (Floppy Connector)

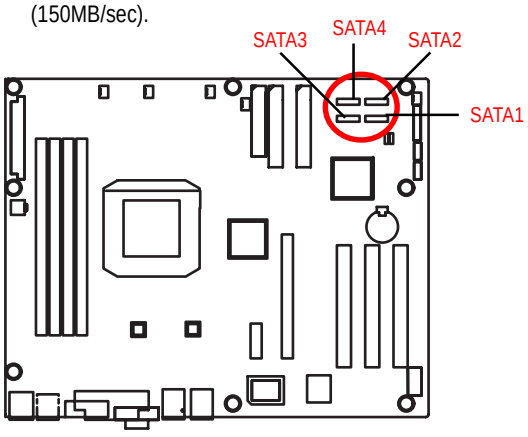
Please connect the floppy drive ribbon cables to FDD. It supports 1.2M,1.44M and 2.88Mbytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.





F/ G/ H/ I) SATA1/ 2/ 3/ 4 (Serial ATA Connectors)

You can connect the Serial ATA device to this connector, it provides you high speed transfer rates (150MB/sec).

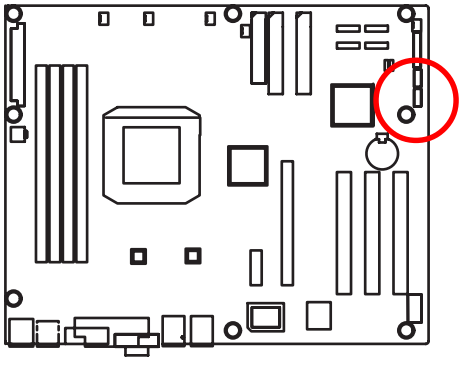


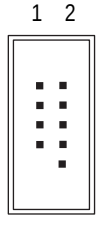


Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

J / K)F_USB 2/3 (Front USB Connectors)

Be careful with the polarity of the front panel USB connector. Check the pin assignment while you connect the front panel USB cable. Please contact your nearest dealer for optional front panel USB cable.

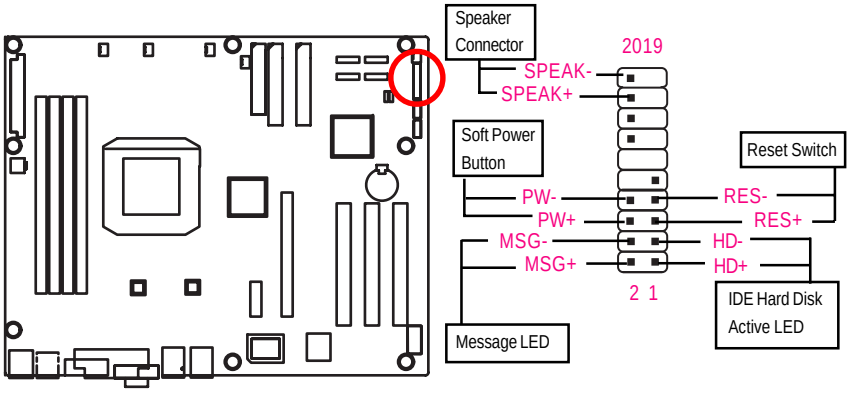




Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB DY-
5	USB DX+
6	USB DY+
7	GND
8	GND
9	Key (No Pin)
10	USB Over Current

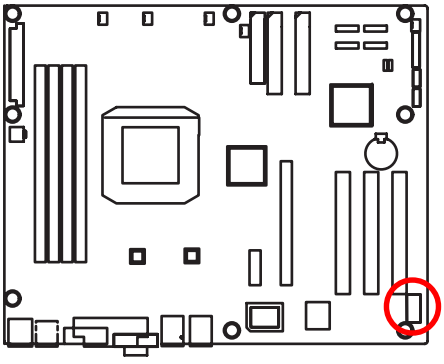
L) F_Panel1 (2x10 Pins Front Panel Connectors)

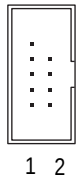
Please connect the power LED, PC speaker, reset switch and power switch etc of your chassis front panel to the front panel jumper according to the pin assignment below.



Pin No	Signal Name	Description
1	HD+	Hard Disk LED pull up (330 ohm)
2	MSG+	Message LED Signal (Pull up 330 ohm)
3	HD-	Hard Disk Active LED Signal
4	MSG-	Message Suspend LED (Blinking)
5	RES+	Front Panel Reset Button Signal
6	PW+	Front Panel Power On/Off Button
7	RES-	Front Panel Reset Button Signal
8	PW-	Front Panel Power On/Off Button
9	NC	No Connect
10	KEY	KEY
11	KEY	KEY
12	KEY	KEY
13	KEY	KEY
14	KEY	KEY
15	KEY	KEY
16	KEY	KEY
17	KEY	KEY
18	KEY	KEY
19	SPEAKER+	Speaker connector
20	SPEAKER-	Speaker connector

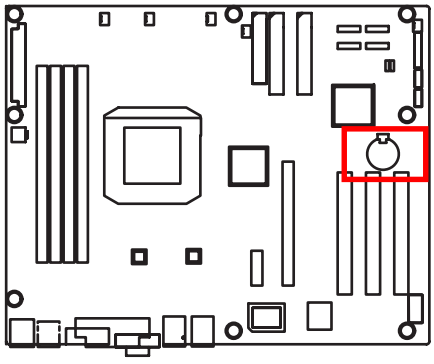
M) COMB

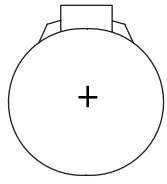




Pin No.	Definition
1	DCD-
2	SIN2
3	SOUT2
4	DTR2-
5	GND
6	DSR2-
7	RTS2-
8	CTS2-
9	RI2-
10	Key Pin

N) Battery





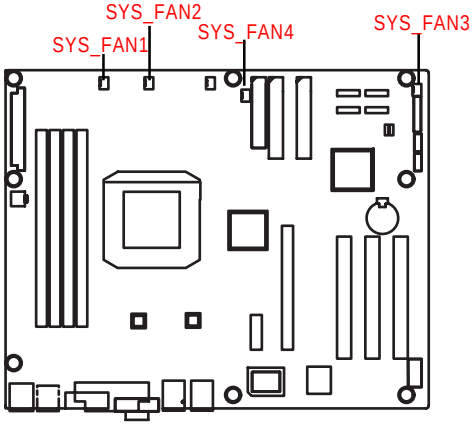
CAUTION

- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...
1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

O / P / Q / R) SYS_FAN1/2/3/4 (System Fan Connectors)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

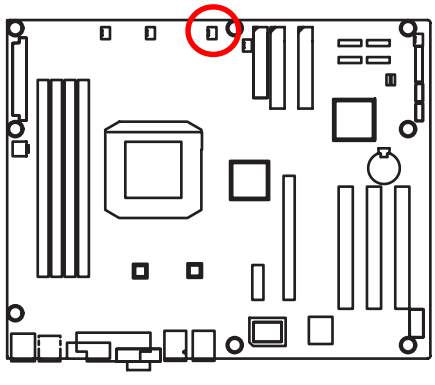




Pin No.	Definition
1	GND
2	+12V
3	Sense

S) CPU_FAN (CPU Fan Connector)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating.The CPU fan connector supports Max. current up to 1A .



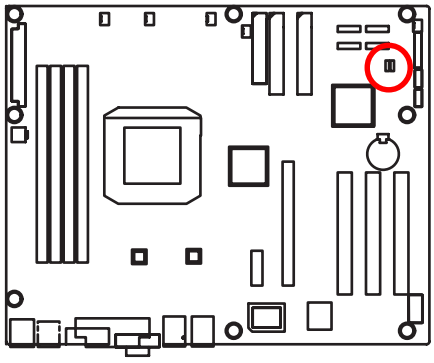


Pin No.	Definition
1	GND
2	+12V
3	Sense

T) CLR_CMOS (Clear CMOS Function)

You may clear the CMOS data to its default values by this jumper.

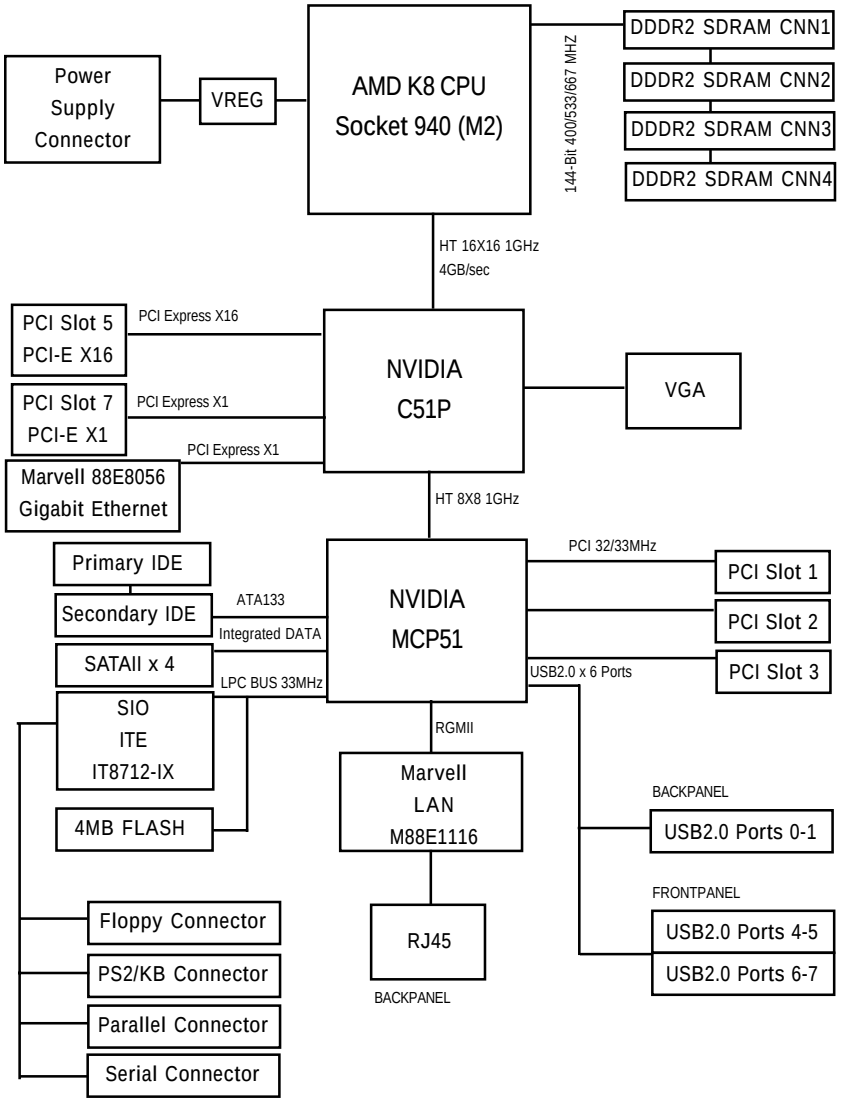
Default value doesn't include the "Shunter" to prevent from improper use this jumper. To clear CMOS, temporarily short 1-2 pin.



1  1-2 close: Clear CMOS

1  2-3 close: Normal (Default value)

2-6: Block Diagram



Chapter 3 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERINGSETUP

Power ON the computer and press <DEL> immediately will allow you to enter Setup.

CONTROLKEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F3>	Reserved
<F4>	Change Menu Color
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Reserved
<F7>	Load the Optimized Defaults
<F8>	Reserved
<F9>	Reserved
<F10>	Save all the CMOS changes, only for Main Menu

GETTINGHELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

- **Main**

  This setup page includes all the items in standard compatible BIOS.

- **Advanced**

  This setup page includes all the items of AWARD special enhanced features.

  (ex: onboard device enable/disable, power management)

- **Security**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- **Boot**

  This setup page include all the items of first boot function features.

- **PC Health Status**

  This setup page displays the System auto detect Temperature, voltage, fan speed.

- **Exit**

  Save CMOS value settings to CMOS and exit setup or abandon all CMOS value changes and exit setup.

Main

Once you enter Award BIOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

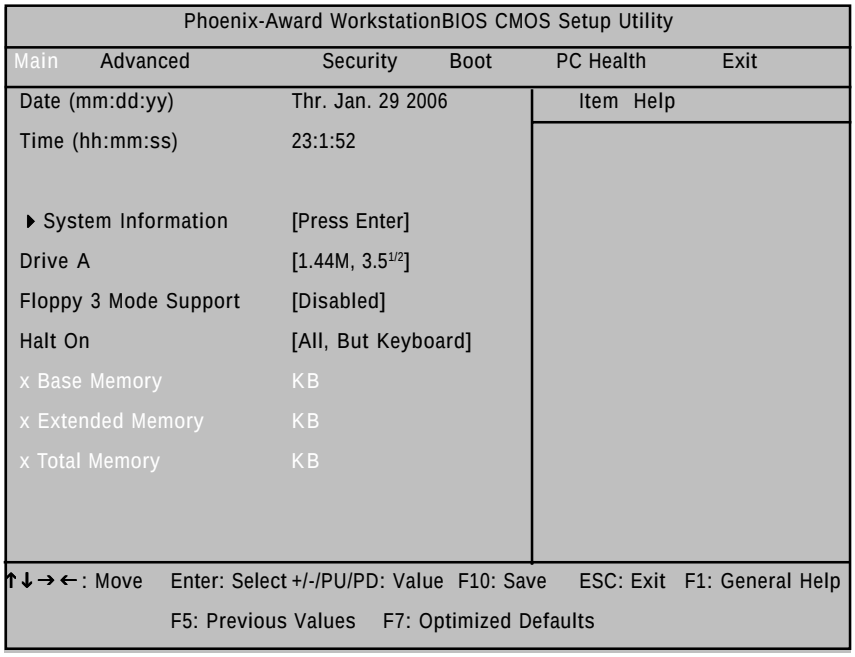


Figure 1: Main

Date

The date format is <date> <month>, <day>, <year>.

- Date The date, Monday to Sunday.
- Month The month, Jan. Through Dec.
- Day The day, from 1 to 31 (or the maximum allowed in the month)
- Year The year, from 1999 through 2098

Time

The times format is set in <hour>, <minute> and <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Note that "x" indicates Display ONLY

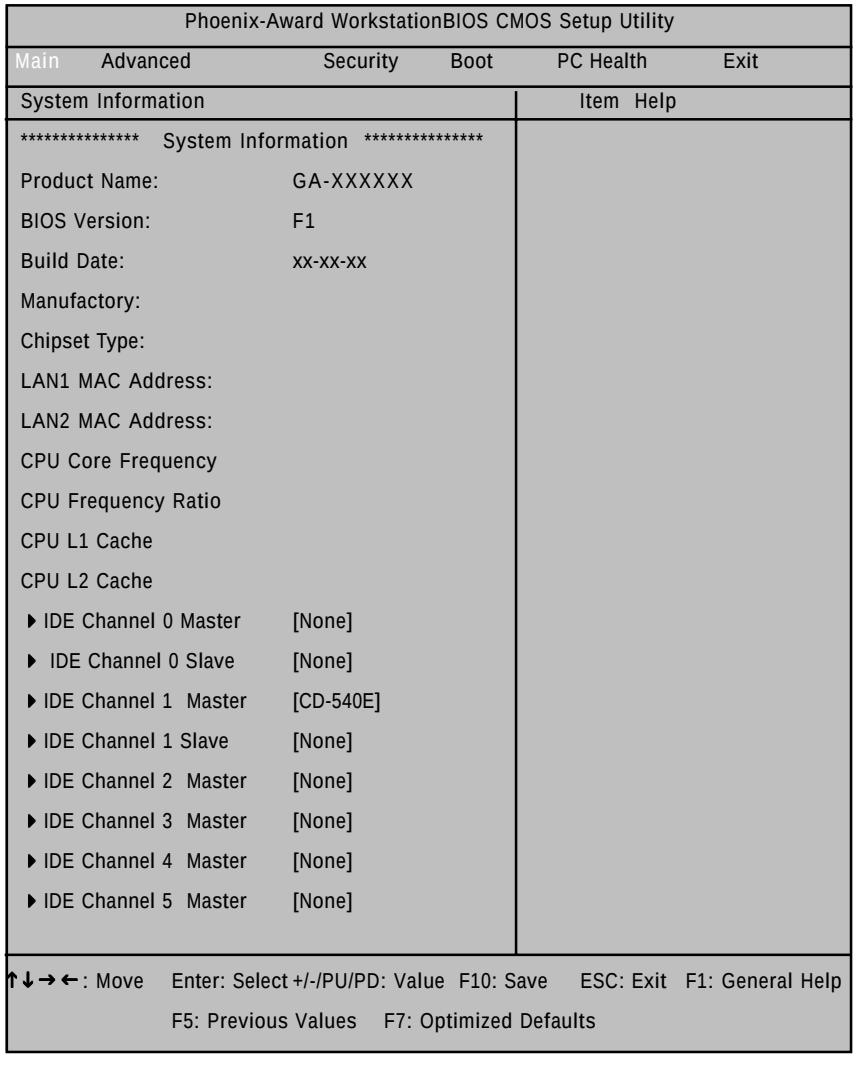


Figure 1-1: Main

System Information

This category includes the information of motherboard, BIOS version, Build Date, Manufactory, relative chipset type, and processors information.

IDE HDD Auto Detection

Press [Enter] to auto-detect the HDD's size, head, etc on this channel.

IDE Channel 0~5 Master / Channel 0~1 Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type that will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- Access Mode

  This option allows user to set hard drive parameters.

  Option: CHS, LBA, Large, Auto (Default Value)

Capacity	Displays the capacity of HDD
Cylinder	Number of cylinders
Heads	Number of heads
Precmp	Write precomp
Landind Zone	Landing zone
Sectors	Number of sectors

If a hard disk has not been installed, select NONE and press <Enter>.

Drive A

The category identifies the types of floppy disk drive A that has been installed in the computer.

None	No floppy drive installed
360K, $5^{1/4}$ in.	5.25 inch PC-type standard drive; 360K byte capacity.
1.2M, $5^{1/4}$ in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
720K, $3^{1/2}$ in.	3.5 inch double-sided drive; 720K byte capacity
1.44M, $3^{1/2}$ in.	3.5 inch double-sided drive; 1.44M byte capacity.
2.88M, $3^{1/2}$ in.	3.5 inch double-sided drive; 2.88M byte capacity.

Floppy 3 Mode Support

This is required to support older Japanese floppy drives. Floppy 3 Mode Support will allow reading and writing of 1.2MB (as opposed 1.44MB) on a 3.5-inch diskette.

Disabled	Normal Floppy Drive. (Default value)
Drive A	Drive A is 3 mode Floppy Drive.
Drive B	Drive B is 3 mode Floppy Drive.
Both	Drive A & B are 3 mode Floppy Drives.

Halt On

This function allows system to halt when an error is detected during Power-On-Self -Test.

NO Errors	The system boot will not stop for any error that may be detected and you will be prompted.
All Errors	Whenever the BIOS detects a non-fatal error the system boot will be stopped.
All, But Keyboard	The system boot will not stop for all errors except a keyboard error. (Default value)
All, But Diskette	The system boot will not stop for all errors except a disk error.
All, But Disk/Key	The system boot will not stop for all errors except keyboard and disk errors.

☞ Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

☞ ExtendedMemory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1 MB in the C PU's memory address map.

☞ Total Memory

The POST of the BIOS will determine the amount of total memory installed in the system.

Advanced

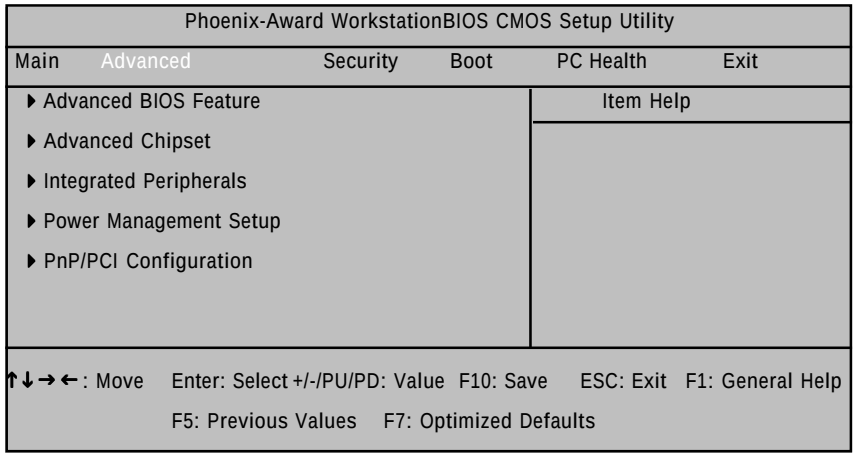


Figure 2: Advanced

Advanced BIOS Feature

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Advanced BIOS Feature		Item Help
Quick Power On Self Test	[Enabled]	
Boot Up Floppy Seek	[Disabled]	
Boot Up Num-Lock Status	[On]	
x APIC Mode	Enabled	
Full Screen LOGO Show	[Disabled]	
Summary Screen Show	[Enabled]	
DMI Event Log	[Enabled]	
Clear All Event Log	[No]	
View DMI Event Log	[Enter]	
Mark DMI events Log as Read	[Enter]	
x Event Log Capacity	Space Available	
x Event Log Vaildity	Vaild	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

Figure 2-1: Advanced BIOS Features

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

- Enabled — Enables quick POST.(Default value)
- Disabled — Normal POST.

Boot Up Floppy Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks 720K, 1.2M and 1.44M are all 80 tracks.

- Enabled — BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks. (Default value)
- Disabled — BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up Num-Lock Status

This option allows user to select power-on status for NumLock.

- Auto — System auto assign. (Default value)
- Enabled — Enable NumLock.
- Disabled — Disable this function.

Full Screen Logo Show

- Enabled — Show Full Logo when system boot.
- Disabled — Disable this function. (Default value)

Summary Screen Show

- Enabled — Show Summary screen when system boot. (Default value)
- Disabled — Disable this function.

DMI Event Log

- Enabled — Store POST error message to the DMI Event Log. (Default value)
- Disabled — Disable this function.

Clear all DMI Event Log

- Yes — System will clear DMI event logs at next POST stage, and set this item to [No] automatically.
- No — Do not clear DMI event logs at next POST stage. (Default value)

☞View DMI Event Log

Press [Enter] to view all DMI event logs.

☞Mark DMI Events Log as Read

This option allows user to clear all DMI Event Logs immediately. Press [Enter] will pop up a confirmation window. Hit [Y] and [Enter] to clear all DMI event logs immediately.

☞Event Log Capacity

This item displays the information of Event Log Capacity.

☞Events Log Vaildity

This item displays the information of Event Log Vaildity.

Advanced Chipset

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Advanced Chipset		Item Help
OnChip VGA	[Enabled]	
Frame Buffer Size	[64M]	
System BIOS Cacheable	[Disabled]	
↑↓→←: Move	Enter: Select +/-/PU/PD: Value F10: Save	ESC: Exit F1: General Help
	F5: Previous Values F7: Optimized Defaults	

Figure 2-2: Advanced Chipset

OnChip VGA

- Enabled — Enable Onboard VGA chipset. (Default value)
- Disabled — Disable this device.

Frame Buffer Size

This item allows user to select the frame buffer size.

- Options — 16M, 32M, 64M, 128MB, 256MB.

System BIOS Cacheable

- Enabled — Enable System BIOS Cacheable function.
- Disabled — Disabled this function. (Default value)

Integrated Peripherals

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Integrated Peripherals		Item Help
▸ IDE Function Setup		
▸ RAID Config		
OnChip USB	[V1.1+V2.0]	
USB Memory Type	[SHADOW]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
MAC Lan	[Auto]	
MAC Media Interface	[Pin Strap]	
2nd Lan Controller	[Auto]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8,IRQ4]	
Onboard Serial Port 2	[2F8,IRQ3]	
UART Mode Select	[Normal]	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
x ECP Mode Use DAM	3	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

Figure 2-3: Integrated Peripherals

IDE Function Setup

OnChip IDE Channel 0

- Enabled — Enable onboard Onchip IDE Channel 0. (Default value)
- Disabled — Disable this function.

Primary Master PIO

- Auto — Auto detect the IDE secondary master PIO. (Default value)
- Mode 0 — Select Mode 0 as IDE secondary master PIO.
- Mode 1 — Select Mode 1 as IDE secondary master PIO.
- Mode 2 — Select Mode 2 as IDE secondary master PIO.
- Mode 3 — Select Mode 3 as IDE secondary master PIO.
- Mode 4 — Select Mode 4 as IDE secondary master PIO.

Primary Slave PIO

- Auto — Auto detect the IDE secondary slave PIO. (Default value)
- Mode 0 — Select Mode 0 as IDE secondary slave PIO.
- Mode 1 — Select Mode 1 as IDE secondary slave PIO.
- Mode 2 — Select Mode 2 as IDE secondary slave PIO.
- Mode 3 — Select Mode 3 as IDE secondary slave PIO.
- Mode 4 — Select Mode 4 as IDE secondary slave PIO.

Primary Master UDMA

- Auto — Auto detect the IDE Primary Master Ultra DMA in the specified IDE channel. (Default value)
- Disabled — Disable this function.

Primary Slave UDMA

- Auto — Auto detect the IDE Primary Slave Ultra DMA in the specified IDE channel. (Default value)
- Disabled — Disable this function.

OnChip IDE Channel 1

- Enabled — Enable onboard Onchip IDE Channel 0. (Default value)
- Disabled — Disable this function.

Secondary Master PIO

- Auto — Auto detect the IDE secondary master PIO. (Default value)
- Mode 0 — Select Mode 0 as IDE secondary master PIO.
- Mode 1 — Select Mode 1 as IDE secondary master PIO.
- Mode 2 — Select Mode 2 as IDE secondary master PIO.
- Mode 3 — Select Mode 3 as IDE secondary master PIO.
- Mode 4 — Select Mode 4 as IDE secondary master PIO.

Secondary Slave PIO

- Auto — Auto detect the IDE secondary slave PIO. (Default value)
- Mode 0 — Select Mode 0 as IDE secondary slave PIO.
- Mode 1 — Select Mode 1 as IDE secondary slave PIO.
- Mode 2 — Select Mode 2 as IDE secondary slave PIO.
- Mode 3 — Select Mode 3 as IDE secondary slave PIO.
- Mode 4 — Select Mode 4 as IDE secondary slave PIO.

Secondary Master UDMA

- Auto — Auto detect the IDE Primary Master Ultra DMA in the specified IDE channel. (Default value)
- Disabled — Disable this function.

Secondary Slave UDMA

- Auto — Auto detect the IDE Primary Slave Ultra DMA in the specified IDE channel. (Default value)
- Disabled — Disable this function.

IDE DMA transfer access

- Enabled — Enable IDE DMA transfer access. (Default value)
- Disabled — Disable this function.

Serial-ATA Controller

- All Enabled — Enable all serial device controllers. (Default value)
- Disabled — Disable this device.
- SATA-1 — Only enable SATA-1 device.

IDE Prefetch Mode

- Enabled — Enable IDE Prefetch Mode. (Default value)
- Disabled — Disable this function.

RAID Enable

- Enabled — Enable RAID function.
- Disabled — Disable this function. (Default value)

SATA1 Primary RAID

- Enabled — Enable SATA1 Primary RAID function.
- Disabled — Disable this function. (Default value)

SATA1 Secondary RAID

- Enabled — Enable SATA1 Secondary RAID function.
- Disabled — Disable this function. (Default value)

SATA2 Primary RAID

- Enabled — Enable SATA1 Primary RAID function.
- Disabled — Disable this function. (Default value)

SATA2 Secondary RAID

- Enabled — Enable SATA1 Secondary RAID function.
- Disabled — Disable this function. (Default value)

OnChip USB

- Options: V1.1+V2.0, V1.1, Disabled.
  Default value is V1.1+V2.0

USB Memory Type

- Options: SHADOW, Base Memory (640K).

USB Keyboard Support

- Enabled: Enable USB Keyboard Support.
- Disabled: Disable USB Keyboard Support. (Default value)

USB Mouse Support

- Enabled: Enable USB Mouse Support.
- Disabled: Disable USB Mouse Support. (Default value)

MAC LAN

- Auto: Auto detect onboard H/W LAN. (Default value)
- Disabled: Disable this function.

MAC Media Interface

This BIOS feature determines which MAC interface is used to connect the Gigabit MAC to the external PHY devices.

- Pin Strap: When set to Pin Strap, the Gigabit MAC will automatically determine the right interface by querying the interface pins. (Default value)
- MII: When set to MII, the Gigabit MAC is set to use the MII which will be connected to Fast Ethernet PHY devices. This only allows transfers of up to 100Mbps.
- RGMII: When set to RGMII, the Gigabit MAC is set to use the RGMII which will be connected to reduced pin-count Gigabit PHY devices. This allows transfers of up to 1000Mbps.

2nd LAN Controller

- Auto — Auto detect onboard second H/W LAN. (Default value)
- Disabled — Disable this function.

IDE HDD Block Mode

The IDE HDD Block Mode feature speeds up hard disk access by transferring data from multiple sectors at once instead of using the old single sector transfer mode. When you enable it, the BIOS will automatically detect if your hard disk supports block transfers and configure the proper block transfer settings for it. Up to 64KB of data can be transferred per interrupt with IDE HDD Block Mode enabled.

- Enabled — Enable IDE HDD Block Mode. (Default value)
- Disabled — Disable this function.

Onboard FDC Controller

- Enabled — Select "enabled" to active Onboard Floppy Controller. (Default value)
- Disabled — Disable this function.

Onboard Serial Port 1

- Auto — BIOS will automatically setup the port 1 address.
- 3F8/IRQ4 — Enable onboard Serial port 1 and set IO address to 3F8. (Default value)
- 2F8/IRQ3 — Enable onboard Serial port 1 and set IO address to 2F8.
- 3E8/IRQ4 — Enable onboard Serial port 1 and set IO address to 3E8.
- 2E8/IRQ3 — Enable onboard Serial port 1 and set IO address to 2E8.
- Disabled — Disable onboard Serial port 1.

Onboard Serial Port 2

- Auto — BIOS will automatically setup the port 2 address.
- 3F8/IRQ4 — Enable onboard Serial port 2 and set IO address to 3F8.
- 2F8/IRQ3 — Enable onboard Serial port 2 and set IO address to 2F8. (Default value)
- 3E8/IRQ4 — Enable onboard Serial port 2 and set IO address to 3E8.
- 2E8/IRQ3 — Enable onboard Serial port 2 and set IO address to 2E8.
- Disabled — Disable onboard Serial port 2.

UART Mode Select

- Normal Using as standard serial port. (Default value)
- IrDA Using as IR and set to IrDA mode.
- ASKIR Using as IR and set to ASKIR mode.
- SCR Using as Smart Card Interface.

UR2 Duplex Mode

This entry can be adjust when user select [IrDA] in UART Mode item.

- Full IR function Duplex Full.
- Half IR function Duplex Half.

Onboard Parallel Port

- 378/IRQ7 Enable onboard LPT port and set address to 378/IRQ7. (Default value)
- 278/IRQ5 Enable onboard LPT port and set address to 278/IRQ5.
- 3BC/IRQ7 Enable onboard LPT port and set address to 3BC/IRQ7.
- Disabled Disable onboard LPT port.

Parallel Port Mode

- 3BC/IRQ7 Enable onboard LPT port and set address to 3BC/IRQ7.
- Disabled Disable onboard LPT port.
- SPP Using Parallel port as Standard Parallel Port. (Default value)
- EPP Using Parallel port as Enhanced Parallel Port.
- ECP Using Parallel port as Extended Capabilities Port.
- ECP+EPP Using Parallel port as ECP & EPP mode.
- Normal Using Parallel port as Normal.

ECP Mode Use DMA

This option is only available if the setting for the Parallel Port Mode option is ECP. This option sets the DMA channel used by parallel port.

The options: 1, 3 (Default value)

Power Management Setup

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Power Management		Item Help
ACPI Function	[Enabled]	
ACPI Suspend Type	[S1,S3]	
Power Management	[User Define]	
Video off Method	[DPMS Support]	
HDD Power Down	[Disabled]	
HDD Down In Suspend	[Disabled]	
Soft-off by PBNT	[Instant-off]	
AC Back	[Off]	
WOL (PME#) From Soft -Off	[Disabled]	
WOR (RI#) From Soft -Off	[Disabled]	
Power-On by Alarm	[Disabled]	
x Day of Moth Alarm	0	
x Time (hh:mm:ss) Alarm	0:0:0	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

Figure 2-4: Power Management

ACPI Function

- Enabled — Enable ACPI function. (Default Value)
- Disabled — Disable this function.

ACPI Suspend Type

- S1(POS) — Set ACPI suspend type to S1.
- S3(STR) — Set ACPI suspend type to S3.
- S1, S3 — Set ACPI suspend type to S1&S3. (Default value)

Soft-off by PBTTN

- Instant-off — Press power button then Power off instantly. (Default)
- Delay 4 Sec. — Press power button 4 sec to Power off. Enter suspend if button is pressed less than 4 sec.

WOL (PME#) From Soft-Off

- Disabled — Disable Wake Up On LAN and PME wakeup function. (Default value)
- Enabled — Enable Wake Up On Ring function.

WOR (RI#) From Soft-off

- Disabled — Disable Wake Up On Ring function. (Default value)
- Enabled — Enable Wake Up On Ring function.

Power -On by Alarm

You can set "Power -On by Alarm" item to enabled and key in Data/time to power on system.

- Disabled — Disable this function. (Default value)
- Enabled — Enable alarm function to POWER ON system.

If Power on by Alarm Lead To Power On is Enabled.

Date (of Month) Alarm : Everyday, 0~31 (0 indicates repeat daily)

Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

PnP/PCI Configuration

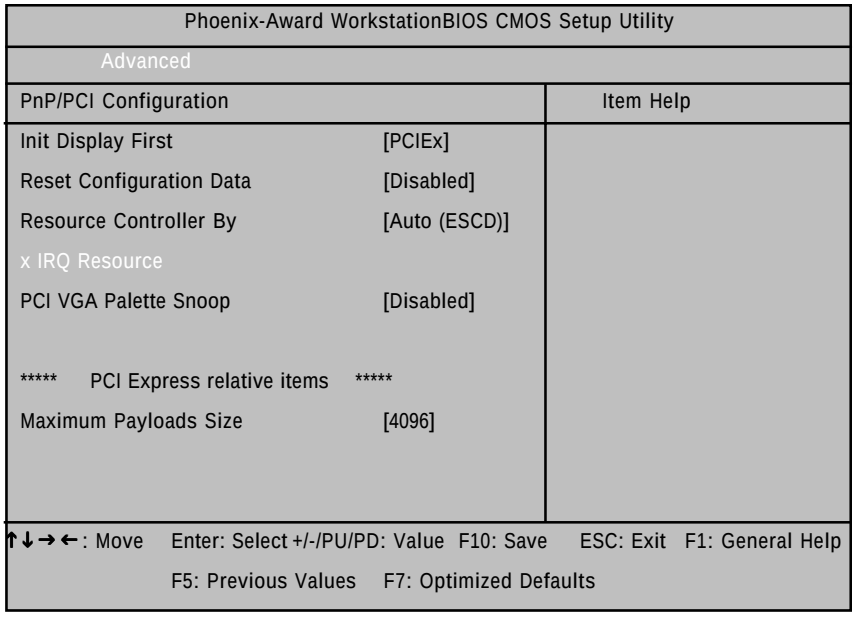


Figure 2-5: PnP/PCI Configuration

☞Init Display First

This feature allows you to select the first initation of the monitor display from which card, when you install an AGP VGA card and a PCI VGA card on board.

- ▸▸PCIEx — Set Init Display First to PCI Express Slot. (Default value)
- ▸▸PCI Slot — Set Init Display First to PCI Slot.

☞Reset Configuration Data

- ▸▸Yes — Clear the Extended System Configuration Data (ESCD) area.
- ▸▸No — Disable this function. (Default value)

Resource Controller By

This BIOS items provides function for configuring all of the boot and Plug & Play compatible devices. Normally, user should set this items Auto, then the BIOS can automatically assign the IRQs and DMA channels. All the IRQ and DMA assignment fields should disappear as a result.

But if you are having problems assigning the resources automatically via the BIOS, you can select Manual to reveal the IRQ and DMA assignment fields. Then you can assign each IRQ or DMA channel to either Legacy ISA or PCI/ISA PnP devices.

▸▸Options	Auto (ESCD), Manual. Default value is Auto (ESCD).

PCI VGA Palette Snoop

This option is only useful if you use an MPEG card or an add-on card that makes use of the graphics card's Feature Connector. It corrects incorrect color reproduction by "snooping" into the graphics card's framebuffer memory and modifying (synchronizing) the information delivered from the graphics card's Feature Connector to the MPEG or add-on card. It will also solve the problem of display inversion to a black screen after using the MPEG card.

▸▸Enabled	Enable PCI VGA Palette Snoop.
▸▸Disabled	Disable this function. (Default value)

Maximum Payloads Size

This option provides function for user to set the maximum TLP payloads size for the PCI Express devices. The unit is “byte”.

▸▸Options	128, 256, 512, 1024, 2048, 4096.

Security

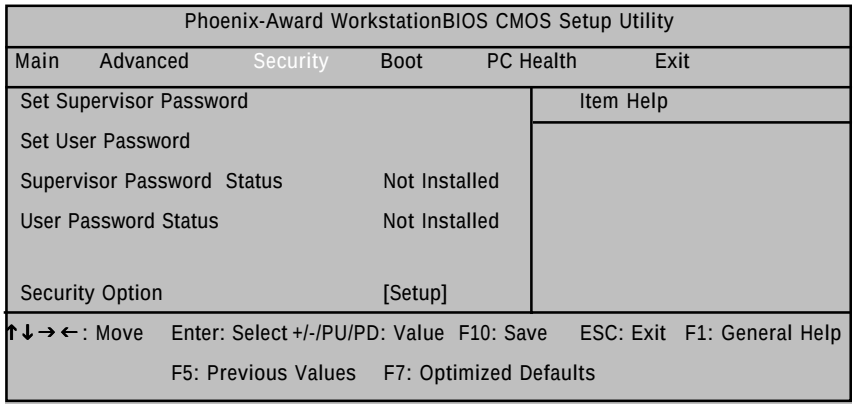


Figure 3: Security

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the entered password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

The BIOS Setup program allows you to specify two separate passwords:

SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

Security Option

Select whether the password is required every time when the system boots or only when user enter the setup.

Boot

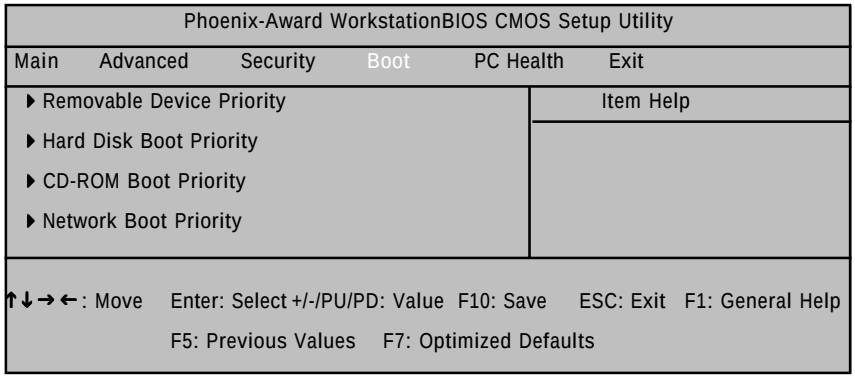


Figure 4: Boot

About This Section: Boot

The "Boot" menu allows user to select among four possible types of boot devices listed using the up and down arrow keys. By applying <+> and <Space> key, you can promote devices and by using the <-> key, you can demote devices. Promotion or demotion of devices alerts the priority that the system uses to search for boot device on system power on.

Removable Device / Hard Drive / CD-ROM Drive/ Network Boot Priority

These three fields determines which type of device the system attempt to boot from after BIOS Post completed. Specifies the boot sequence from the available devices. If the first device is not a bootable device, the system will seek for next available device.

PC Health

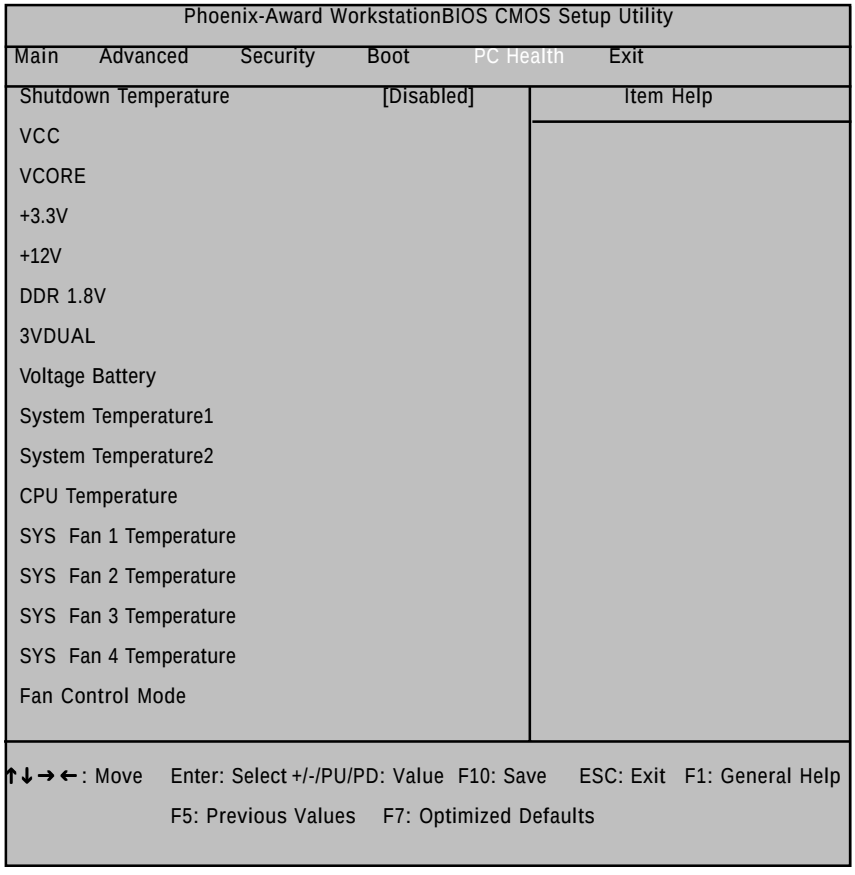


Figure 5: PC Health

Shutdown Temperature

- Determine CPU overheat shutdown temperature.

Voltage: VCC/VCORE +3.3V/ +12V/ DDER 1.8V/ 3VDUAL/ Voltage Battery

- Detect system's voltage status automatically.

CPU /System 1/ System 2 Temperature

- Display the current CPU temperature, System1 & 2 ambient temperature.

CPU SYS 1/2/3/4 FAN Speed (RPM)

- Display the current CPUs and System 1/23/4 FAN speed.

Fan Control Mode

- Depend om CPU Temp — Control bt CPU temperature. (Default value)
- Control By CPU&SYS1 — Control by CPU and System 1 temperature.

Exit

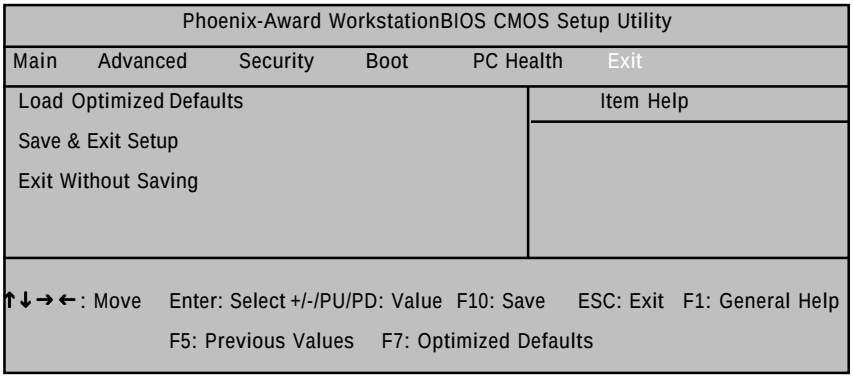


Figure 7: Exit

☞Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:



☞Save & Exit Setup

Type “Y” will quit the Setup Utility and save the user setup value to RTC CMOS.

Type “N” will return to Setup Utility.

☞Exit Without Saving

Type “Y” will abandon all data and quit without saving.

Type “N” will return to Setup Utility.

Chapter 4 Application Driver Installation

A. NVDIA Chipset Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

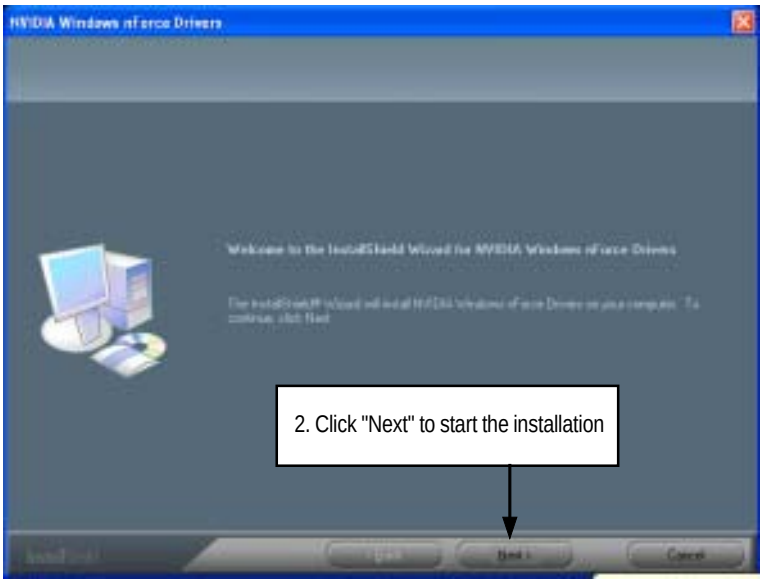
Installation Procedures:

1. The CD auto run program starts, Click on “nVDIA Chipset Driver” to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3.Setup completed, click “Finish” to restart your computer.

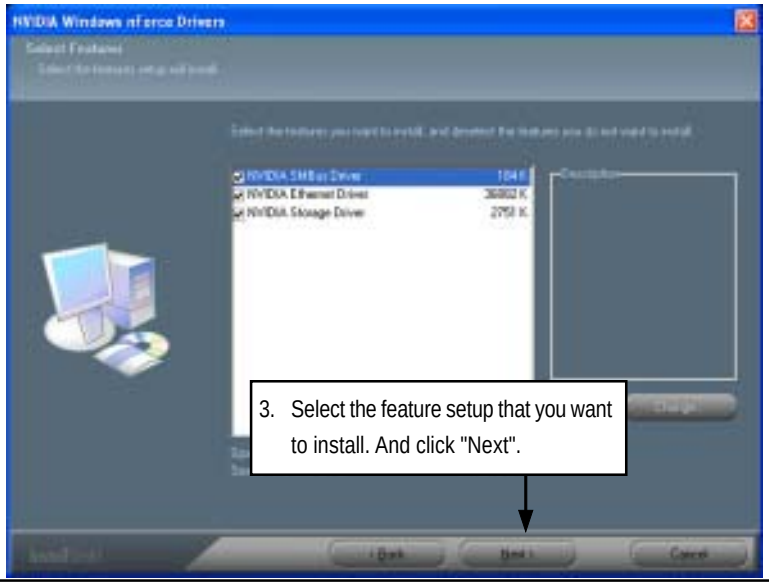
1. Autorun



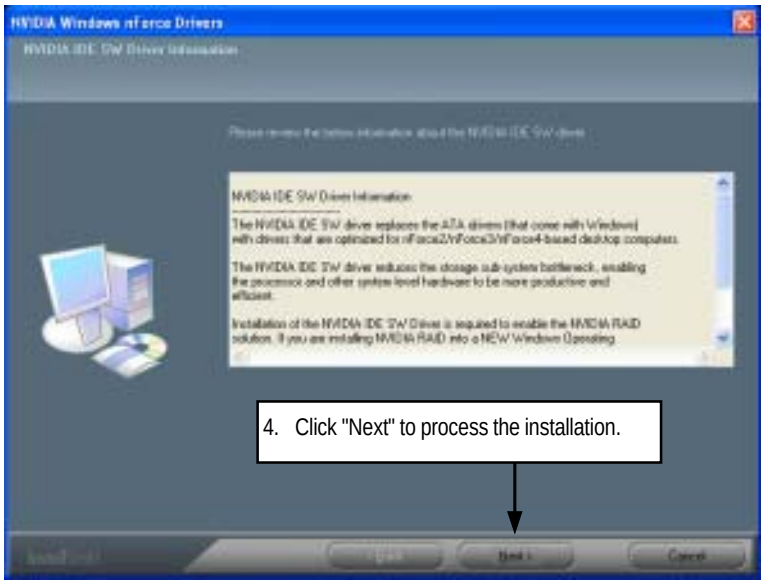
2. InstallShield Wizard Welcome Window



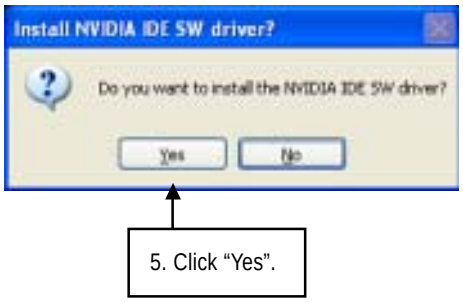
3. Select Features



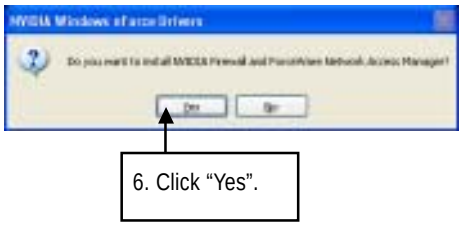
4. NVDIA IDE SW Driver Information



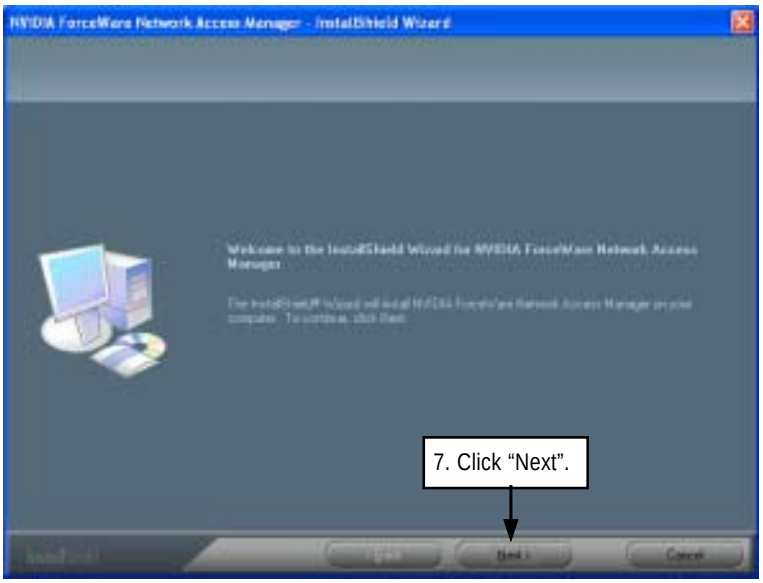
5. IDE SW Driver Installation Confirmation Dialog



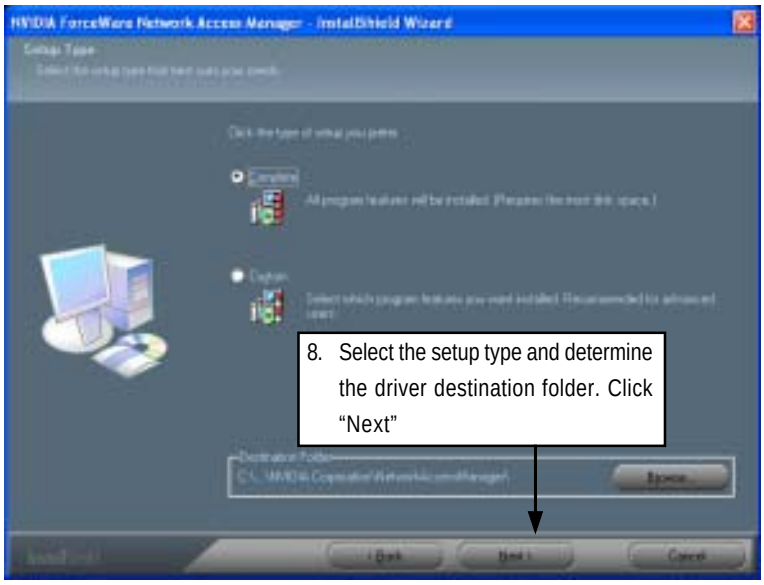
6. Firewall and ForceWare Network Access Manager Installation Confirmation Dialog



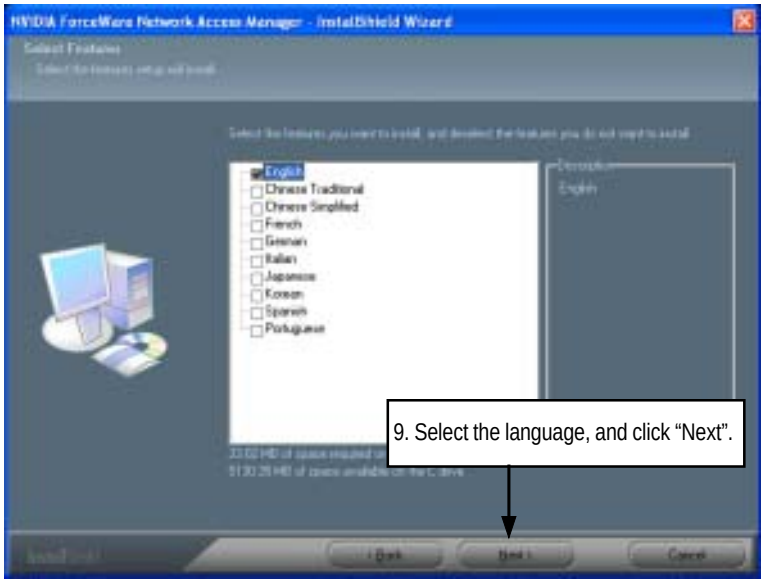
7. Network Access Manager Installation



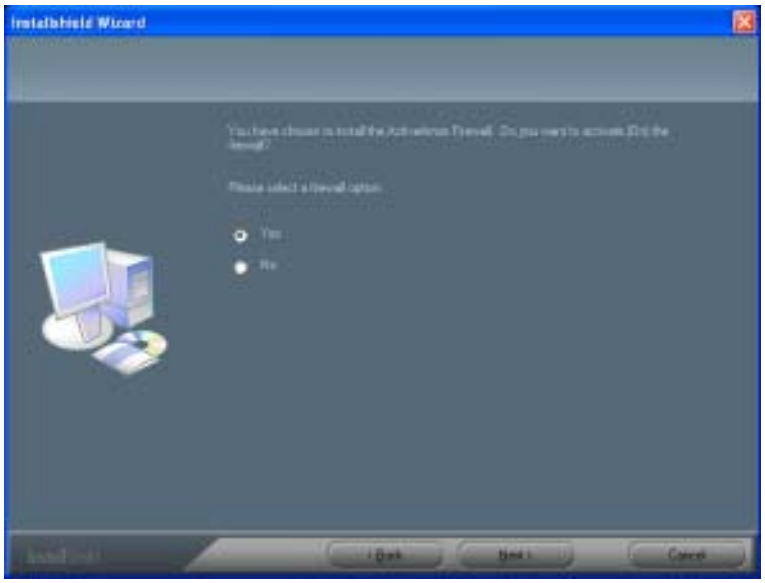
8. Network Access Manager Setup Type Selection



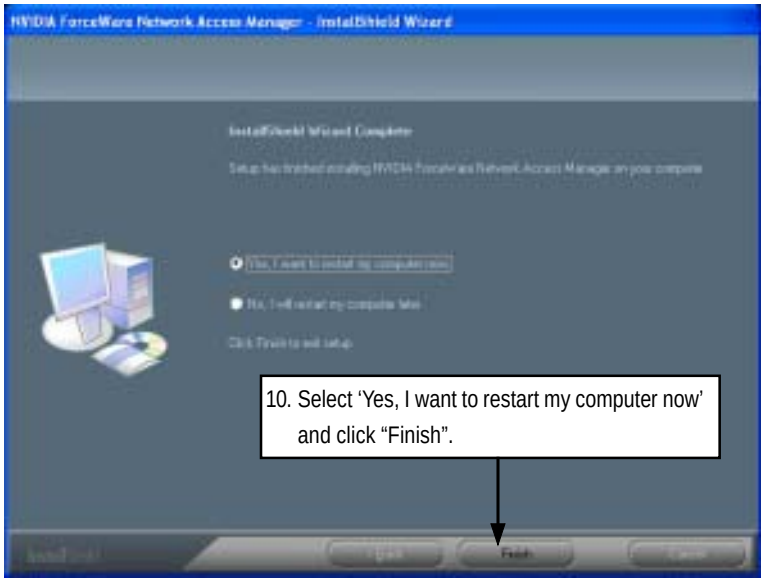
9. Network Access Manager Installation Language Preference



10. ActiveAmor FireWall Installation



11. Installation Complete. Restart Computer



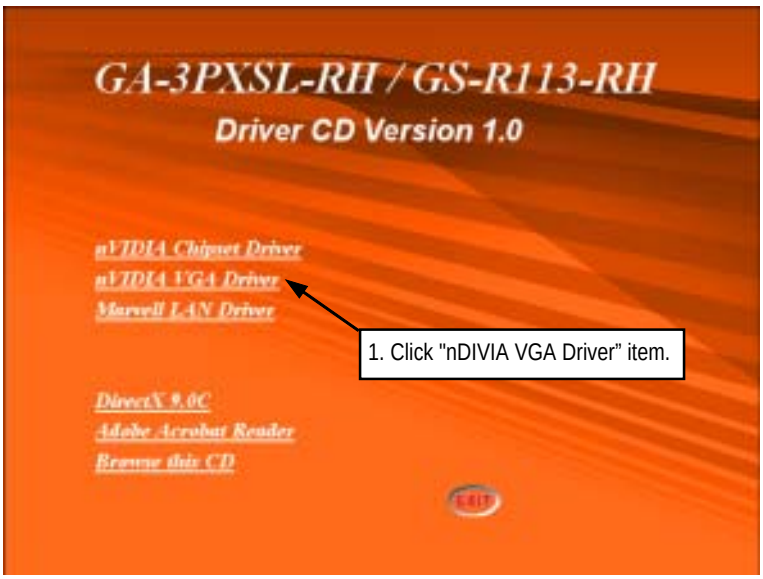
B. nVIDIA VGA Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

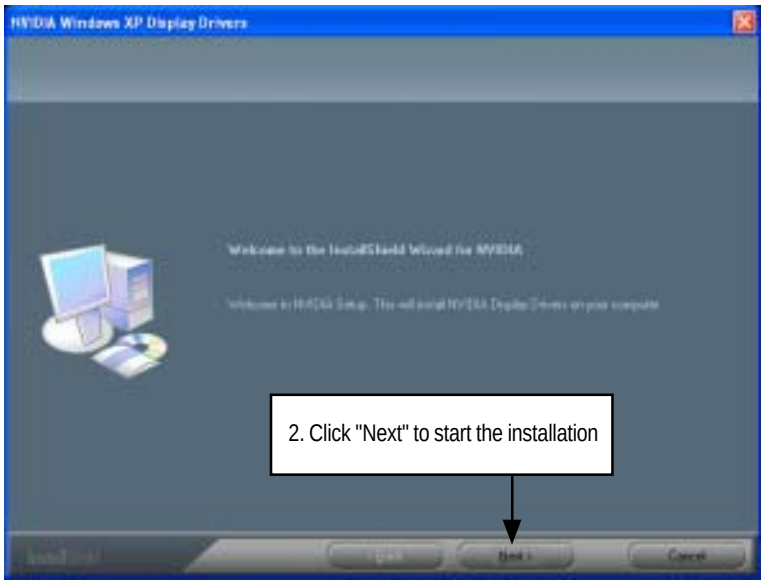
Installation Procedures:

1. The CD auto run program starts, Click on “nVIDIA VGA Driver” to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3.Setup completed, click “Finish” to restart your computer.

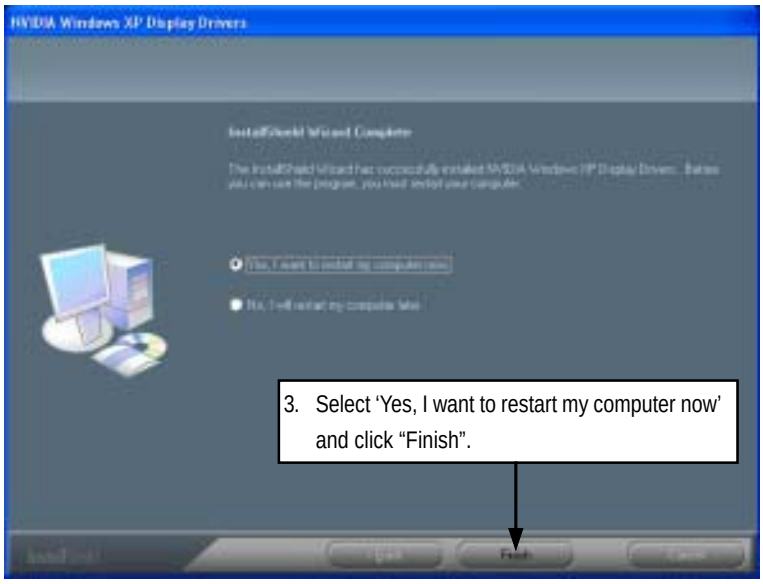
1. Autorun



2. InstallShield Wizard Welcom Window



3. Installaiton Wizard Completed



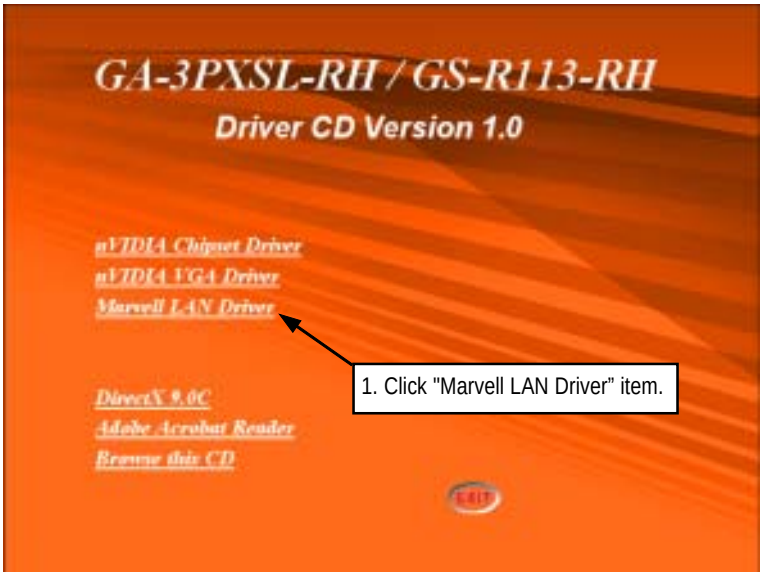
C. Marvell LAN Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

1. The CD auto run program starts, Click on “Marvell LAN Driver” to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3.Setup completed, click “Finish” to restart your computer.

1. Autorun



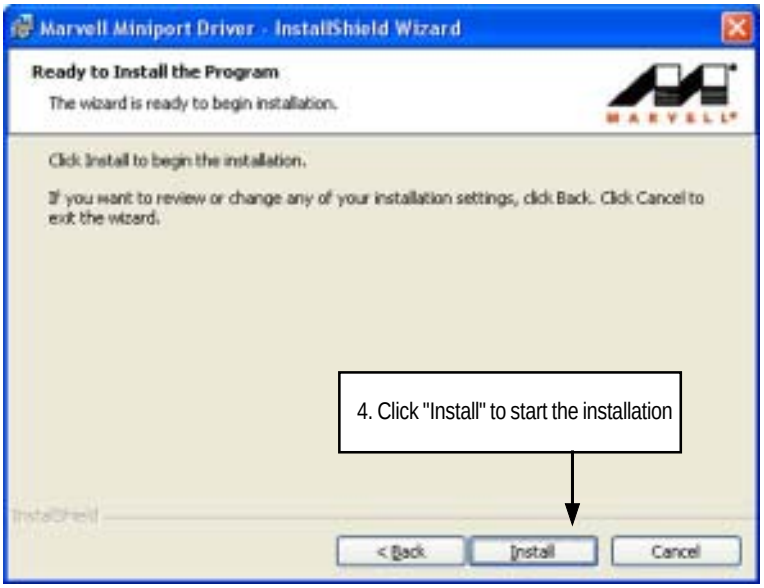
2. InstallShield Wizard Welcome Window



3. License Agreement



4. Ready to Install the Program



5. Installaiton Wizard Completed



D. DirectX 9.0 Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

1. The CD auto run program starts, Double click on “Directx9.0” to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3.Setup completed, click “Finish” to restart your computer.

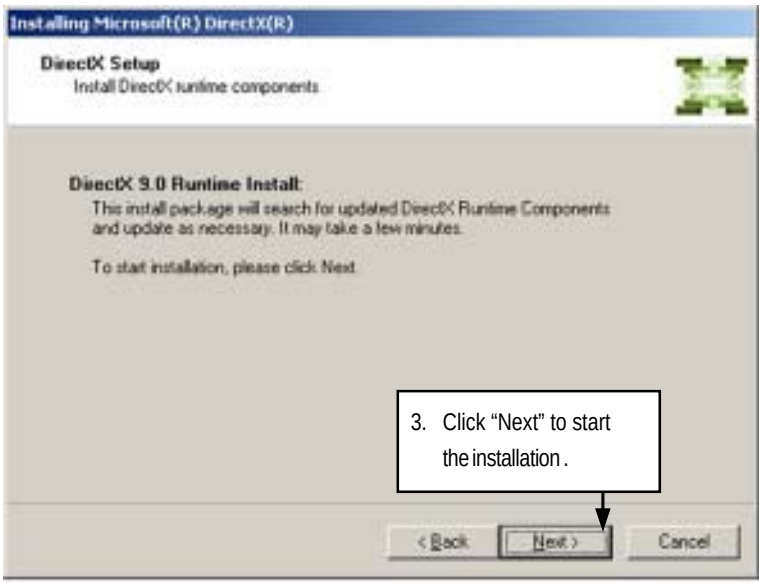
1. Autorun



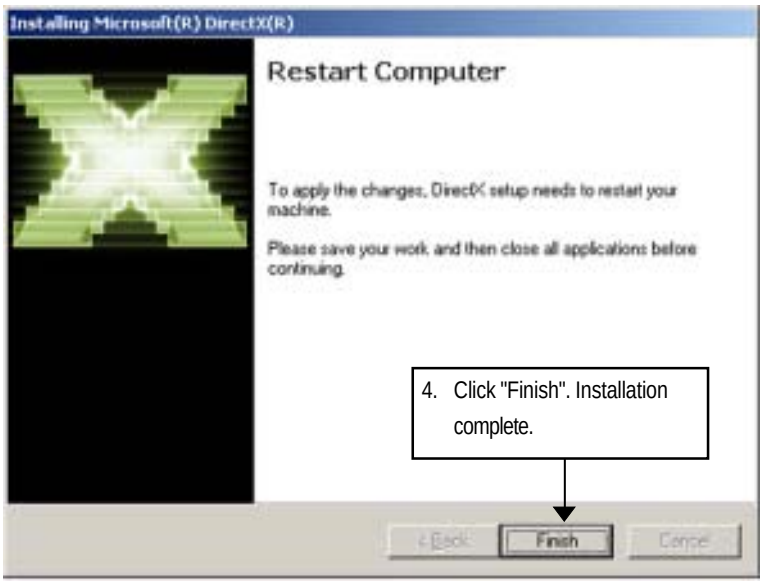
2. License Agreement



3. Start Installaiton



4. Installaiton Wizard completed



Chapter 5 Appendix

Appendix : Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BBS	BIOS Boot Specification
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request

to be continued.....

Acronyms	Meaning
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID